Computer engineering is a discipline that combines elements from electrical engineering and computer science. Computer engineers specialize in the design and evaluation of digital systems, computer networks, embedded systems, operating systems and hardware and software elements.
COMPUTER ENGINEERING

COMPUTER ENGINEERING AT SLU

Computer Engineering students study the fundamentals of computer system design, which involves hardware, software and the interaction of the two. They can specialize in areas including writing software and firmware for embedded micro-controllers or designing VLSI chips, analog sensors, mixed signal circuit boards or operating systems. Students are also prepared for robotics research, which relies heavily on using digital systems to control and monitor electrical systems such as motors, communication systems and sensors.

Early in their academic careers, students spend valuable time experimenting in well-equipped labs. The program goes beyond textbooks, encouraging students to apply what they have learned to real-world situations through engagement in extracurricular projects and regional design contests. Design experience is emphasized throughout the program, culminating with the senior design project, which allows students to participate in a large-scale design incorporating what they have learned. Also, while at Parks, students can participate in a variety of professional student organizations on campus.

Part of the broad education students receive incorporates community building, leadership, service, spirituality and values, reflecting the Jesuit mission of the Saint Louis University experience.

INDUSTRY INTERACTION

Computer Engineering students at Parks will graduate with an ability to design computer systems, components and processes to meet the needs of the 21st Century.

Computer engineers are in demand in a wide variety of fields such as computer and consumer electronics design, software hardware co-design, robotics, safety control, green energy systems, computer infrastructure and large-scale data mining.

PROGRAM FEATURES

Computer Engineering at SLU is recognized for the following unique program features:

- Well-qualified students can earn their bachelor’s and master’s degrees in five years and continue with their doctorate at Parks or other outstanding institutions.
- Undergraduate students have the opportunity to conduct research with faculty members and publish their research findings in conference proceedings.
- Students can take advantage of mentorship opportunities, pairing with local industry leaders through the St. Louis Regional Business Council or networking with noteworthy alumni at the Parks Leadership Academy series.
- The department consists of well-qualified faculty with terminal Ph.D. degrees in electrical and computer engineering fields.
- A low student-to-faculty ratio ensures undergraduates the opportunity for meaningful interaction with their professors.
- The Summer Undergraduate Research Experience (SURE) allows students to study specific topics of interest under the direction of a faculty member, while receiving a stipend.
- Competitive summer internships and cooperative education programs are available within the industry and with government agencies.
- Independent study can be arranged with faculty members, allowing students to pursue individual theoretical or experimental research.
- All lectures and laboratories are taught by highly qualified and dedicated professors.
- Students have numerous careers options. Parks graduates can be found at companies such as Anadigics, Anheuser-Busch, AT&T, Boeing, Emerson Electric and Rockwell International. Others have gone on to start their own successful businesses.
- Laboratories are equipped with state-of-the-art technology, allowing students to be on the cutting-edge of industry trends.
- The program encourages innovation and entrepreneurship. Graduates have founded their own businesses and worked on new initiatives in established companies.
WHY I CAME TO PARKS

“I came to the SLU St. Louis campus after my freshman year at the SLU Madrid campus in Spain, where I am from. This was a great opportunity--I was able to study in the U.S. and get an international experience without interrupting my educational track. At many schools, studying abroad means adding extra semesters, but with SLU’s program, I was able to go between Madrid and St. Louis, while taking the same courses under excellent faculty.

I also love Parks because of the experiences I have had. I served as President of the SLU Chapter of the Institute of Electrical and Electronics Engineers, got to travel to conferences, compete in design contests and network. I even got to go to San Francisco to participate in RoboGames and we ended up winning the competition! My team’s hard work paid off!

Parks encouraged me to imagine and then create what many would think to be impossible. My professors taught me to not only be a great engineer, but also to be a good person. With skills I have learned I can make the world a better place. They have instilled in me a sense of social and moral responsibility, which is what the Jesuit mission at SLU stresses. I am grateful to the foundation that SLU has given me for the rest of my career.”

-Angel Hernandez, computer engineering major

FEATURED STUDENT PROJECT

As a freshman, Cody Alger accepted challenge from Boeing and the Electrical and Computer Engineering department to build a remote controlled quad copter capable of flying while lifting an empty soda can. Using a $300 grant from the College, Cody successfully met this challenge by late in the spring semester but the project is not over for him yet. Cody plans to keep working on the quad copter and hopes to have it fly autonomously by the end of his sophomore year.

“Building the quadcopter as a freshman pushed me to approach faculty members and other students for assistance and they all have been eager to help me on all sorts of problems that came up.”

FEATURED ALUMNI

Matt Tanase and Jason Seats are 2001 graduates of Parks College. After graduation, Matt started Qaddisin, a network security service company, while Jason worked as a developer for St. Luke’s Hospital and CPI Corporation. In the summer of 2006, while working together on several software consulting projects, they became frustrated with the available hosting options for developers. They saw the opportunity to fill this niche and founded Slicehost LLC, a virtual private server hosting company.

Slicehost LLC is a leader in the field of cloud computing – a paradigm in which information is permanently stored on internet-based servers. They have since sold the company for a profit. Slicehost is still headquartered in downtown St. Louis and has thousands of customers.
ABOUT PARKS COLLEGE

Several global challenges have emerged as opportunities for engineering and aviation students of Saint Louis University to make a difference, to apply their education in a context that is technically brilliant, socially responsible and uniquely enterprising, and to ultimately make the world a better, more inclusive place.

As technology alters every facet of our lives, aviation scientists, computer specialists and engineers are more in demand than ever. SLU’s Parks College of Engineering, Aviation and Technology has a worldwide reputation for its aviation and engineering programs. Our alumni have touched every NASA mission, developed patented technology for wind energy and won national and international awards.

“I invite you to make an appointment for a personal tour. Our faculty, staff and students will be delighted to show you around and answer your questions.”

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